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Graded Metal Matrix Composites: Additive Manufacturing, Properties and Applications

Guest Editor:

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submissions:

closed (30 September 2021)

Message from the Guest Editor

Dear Colleagues,

Graded materials (GMs) are a new generation of composite materials characterized by continuously varying properties. The proposed Special Issue will cover all areas related to theory and methodology, properties, and applications of GM via M&PMC (metal and polymer matrix composite). Hot topics to be covered by the Special Issue:

- How effectively could the reinforced alloying elements and/or ceramic additives be mixed in the melt bath during AM?
- Is it possible to effectively manage properties via reinforcement of matrix structure distribution?
- How effective is the solubility and wettability of the introduced components within the metal and/or polymer matrix in the solidified and remelted states?
- Is it possible to obtain a eutectic equilibrium and/or uniform solid solutions with a gradient stratified by the crystallized volume?
- Determining the optimum spatial dependence for material properties;
- Predicting the characteristic of an FGM for a given property profile;
- The necessity to develop testing methods for determining possible processes and failure conditions which allow for prediction of the performance of FGM in industrial applications.



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Special Issue



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Editor-in-Chief

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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